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SUMMARY

Visitation patterns to the flowers of *Sonneratia caseolaris* and *Aegiceras corniculatum* were investigated between December 1996 and April 1997, in the mangrove forests of Bhitarkanika Wildlife Sanctuary, Orissa. The objectives of the study were to determine the pollination effectiveness of the different categories of visitors by quantifying their rate of visitation. The effect of environmental variables on visitation was examined, and the importance of the visitors to the reproductive success of the plant was investigated by conducting exclusion experiments (i.e., bagging flowers to prevent visitation). Nectar was analysed for volume and sucrose content in *S. caseolaris*, and the impact of predation on the reproductive success of the plant was examined.

The results of the study indicated that the flowers of both plant species attracted a wide array of visitors and did not show a specialised relationship with any one visitor species/category. Different categories of visitors were seen to vary in their pollination effectiveness for the two plant species. Environmental variables such as temperature, sun intensity and wind velocity were seen to influence the visitation of Lepidoptera to the greatest extent, and Hymenoptera to a lesser extent. Visitation by birds was found to be independent of the environmental variables. The territorial behaviour of purple-rumped sunbirds at the *S. caseolaris* site was seen to reduce visitation of other birds and of bees to the flowers of this species.

Results of the bagging set-ups indicated that there was no difference in the pollinator effectiveness of the nocturnal and diurnal visitors. Reproductive success was not pollinator-limited in either of the two plant species. In *S. caseolaris*, predation pressure was the single most important factor limiting fruit-set, while in *A. corniculatum*, fruit-set is probably resource-limited.